AMENDMENTS

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. **(Currently amended)** An isolated FB005, FB006 or FB066 peptide comprising the sequence of SEQ ID NO:1, SEQ ID NO:2 or SEQ ID NO:3, respectively.

2. (Canceled)

3. (Canceled)

4. (Previously presented) An isolated, modified peptide selected from the group consisting of:

(a) SEQ ID NO:1;

(b) SEQ ID NO:2;

(c) SEQ ID NO:3; and

(d) SEQ ID NO:7,

and having at least one substituted amino acid residue at a predetermined position in the peptide sequence, wherein the at least one substituted amino acid residue is a hydrophilic amino acid residue, a hydrophobic amino acid residue, an amino acid residue having a propensity to form alpha helices, a D-isomer of one of the naturally occurring L-amino acids, or a non-naturally occurring amino acid residue.

5. (Previously presented) An isolated, derivatized peptide selected from the group consisting of:

(a) the FB005M peptide of SEQ ID NO:8;

(b) the FB005CM peptide of SEQ ID NO:9;

(c) the FB006M peptide of SEQ ID NO:10;

(d) the FB007M peptide of SEQ ID NO:11;

(e) the FB010M peptide of SEQ ID NO:12;

(f) the FB010KM peptide of SEQ ID NO:13;

(g) the FB066M peptide of SEQ ID NO:14; and

(h) the FB066KM peptide of SEQ ID NO:15.

6. (Previously presented) An isolated, derivatized peptide selected from the group consisting of:

(a) SEQ ID NO:1;

(b) SEQ ID NO:2;

(c) SEQ ID NO:3; and

(d) SEQ ID NO:7,

wherein predetermined amino acid residues in the peptide sequence are derivatized by conjugating a coupling group to said predetermined amino acid residues.

7. (Previously presented) The modified peptide of claim 4, wherein predetermined amino acid residues in the peptide sequence are derivatized by conjugating a coupling group to said predetermined amino acid residues.

8. (**Currently amended**) The isolated peptide of claim ~~4~~1, wherein the peptide is SEQ ID NO:1 and is derivatized by attaching a coupling group to a lysine, said lysine being substituted for glutamic acid at position 23 or added at the C-terminus.

9. (**Currently amended**) The isolated peptide of claim ~~4~~2, wherein the peptide is SEQ ID NO:2 and is derivatized by attaching a coupling group to the lysine at position 13.

10. (**Currently amended**) The isolated peptide of claim ~~4~~2, wherein the peptide is SEQ ID NO:2 and is modified by substituting the lysine at position 13 with glutamic acid and derivatized by attaching a coupling group to an additional lysine residue added at the C-terminus.

11. (Previously presented) An isolated, derivatized peptide consisting of the sequence of SEQ ID NO: 3, wherein the peptide is modified by replacing glutamic acid at position 13 with a lysine and attaching a coupling group to the lysine, or derivatized by conjugating a coupling group to a lysine added at the C-terminus.

12. **(Currently amended)** The isolated peptide of claim ~~43~~, wherein the peptide is SEQ ID NO:7 and is derivatized by attaching a coupling group to the lysine at position 13, or to an additional lysine added at the C-terminus.

13. **(Currently amended)** The derivatized peptide of ~~any one of~~ claims ~~5-12~~ 7, wherein the coupling group is selected from the group consisting of:

(a) a maleimido group;

(b) a succinimidyl group;

(c) a hydrazine group; and

(d) a carbonyl group.

14. (Previously presented) The derivatized peptide of claim 13, wherein the maleimido group is 3'-maleimidopropionate connected to the epsilon amino group of lysine by [2-(2-amino)ethoxyl]ethoxy acetic acid.

15. **(Currently amended)** A pharmaceutical composition comprising the peptide of ~~any one of~~ claims 1 or ~~4~~ or the derivatized peptide of ~~any one of~~ claims ~~5-12~~ 7.

16. **(Currently amended)** A conjugate comprising the derivatized peptide of ~~any one of~~ claims ~~5-12~~ 7 conjugated to a blood component.

17. (Previously presented) The conjugate of claim 16, wherein the blood component is selected from the group consisting of:

(a) human serum albumin protein;

(b) human transferrin protein;

(c) human ferritin protein;

(d) human immunoglobulin proteins;

(e) human ferritin protein;

(f) human α-2-macroglobulin protein;

(g) human thyroxin binding protein;

(h) human steroid binding proteins; and

(i) combinations thereof.

18. **(Currently amended)** A method for preventing or reducing infection of, or preventing viral replication in, mammalian cells by a virus comprising presenting a peptide according to ~~any one of~~ claims 1 or ~~4~~ or a peptide derivative according to ~~any one of~~ claims ~~5 12~~ 7 to said mammalian cells.

19. (Canceled)

20. (Canceled)

21. **(Currently amended)** The method of claims ~~18 20~~, wherein said peptide is presented in the presence of said virus.

22. **(Currently amended)** The method of claims ~~18 21~~, wherein the virus is selected from the group consisting of:

(a) human immunodeficiency virus (HIV); and

(b) simian immunodeficiency virus (SIV).

23. **(Currently amended)** The method of claims ~~18 21~~, wherein the peptide or peptide derivative is administered orally, topically, intravascularly, intraarterially, intramuscularly, or subcutaneously.

24. **(Currently amended)** The method of claims ~~18 21~~, wherein the peptide or peptide derivative is co-administered with one or more additional HIV treatment(s).

25. (Previously presented) The method of claim 24, wherein the said one or more additional HIV treatment(s) comprises at least one other variant gp41 peptide.

26. (Previously presented) The method of claim 24, wherein the additional HIV treatment(s) is selected from the group consisting of:

(a) AGENERASE;

(b) COMBIVIR;

(c) CRIXIVAN;

(d) EMTRIVA;

(e) EPIVIR;

(f) FORTOVASE;

(g) HIVID;

(h) INVIRASE;

(i) KALETRA;

(j) NORVIR;

(k) RESCRIPTOR;

(l) RETROVIR;

(m) REYATAZ;

(n) SUSTIVA;

(o) TRIZIVIR;

(p) VIDEX EC;

(q) VIDEX;

(r) VIRACEPT;

(s) VIRAMUNE;

(t) VIREAD;

(u) ZERIT; and

(v) ZIAGEN.

27. (**Currently amended**) The method of claim~~s~~ 18~~-21~~, wherein the virus is HIV and the mammalian cells are human cells.

28. (**Currently amended**) A method of preventing or reducing HIV infection comprising administering a derivative variant gp41 peptide of ~~any one of~~ claim~~s 5-12~~ 7 to a patient whose cells have been exposed to HIV, wherein said peptide derivative conjugates with a blood component of said patient, thereby extending the half-life of the peptide in said patient's blood.

29. (Previously presented) A method of making an antiviral conjugate comprising mixing derivatized variant gp41 peptide(s) with blood components and allowing the formation of covalent bonds between derivatized variant gp41 peptide and blood components.

30. (**Currently amended**) The method of claim~~s 27~~-28, wherein the blood component is selected from the group consisting of:

(a) human serum albumin protein;

(b) human transferrin protein;

(c) human ferritin protein;

(d) human immunoglobulin proteins;

(e) human ferritin protein;

(f) human α-2-macroglobulin protein;

(g) human thyroxin binding protein;

(h) human steroid binding proteins; and

(i) combinations thereof.

31. (Previously presented) The method of claim 29, wherein the blood component is human serum albumin protein.

32. (**Currently amended**) The method of claims ~~27~~ 28, wherein the conjugation occurs *in vivo*.

33. (**Currently amended**) The method of claims ~~27~~ 28, wherein the conjugation occurs *ex vivo*.

34. (Previously presented) The method of claim 32, wherein the blood component(s) are separated by plasmaphoresis before conjugation to the derivatized peptide.

35. (**Currently amended**) A pharmaceutical composition comprising the isolated peptide of claims 1 or 4 ~~14~~, or the derivatized peptide of claim 7, and a pharmaceutically acceptable carrier.

36. (Previously presented) A method for the generation of peptides having anti-viral, virostatic or anti-fusogenic activity comprising:

(a) screening a viral virulence protein(s) to identify sequences thereof having alpha-helical forming propensities;

(b) designing an altered peptide by modifying or derivatizing at least one amino acid residue(s) of said identified sequence;

(c) synthesizing said altered peptides; and

(d) testing said peptides to verify anti-viral, virostatic or anti-fusogenic activity.